WHAT IS CLAIMED IS:

1. A light diffuser comprising a polymeric film incorporating microvoids wherein the film has a diffuse light transmission efficiency of at least 65% at 500nm and wherein the microvoids are of a size, shape and frequency sufficient to provide an average weight-balanced color temperature variation (ΔT) of not more than 40 degrees K.

2. The light diffuser of claim 1 wherein the average weight-balanced color temperature variation is between 10 and 40 degrees K.

3. The light diffuser of claim 1 wherein the average weight-balanced color temperature variation is between 5 and 20 degrees.

4. The light diffuser of claim 1 wherein the horizontal average weight-balanced color temperature variation is between 10 and 40 degrees K.

5. The light diffuser of claim 1 wherein the average weight-balanced color temperature variation of a cold fluorescent tube light is reduced by between 40 and 98%.

6. The light diffuser of Claim 1 wherein the difference in refractive index between the thermoplastic polymeric material and the microvoids is greater than 0.2.

7. The light diffuser of Claim 1 wherein said microvoids are formed by organic microspheres.

8. The light diffuser of Claim 1 wherein said microvoids are substantially free of scattering inorganic particles.

9. The light diffuser of Claim 1 wherein the microvoids contain cross-linked polymer beads.

10. The light diffuser of Claim 1 wherein the elastic modulus of the light diffuser is greater than 500 MPa .

11. The light diffuser of Claim 1 wherein said diffuse light transmission is greater than 80% at 500 nm.

12. The light diffuser of Claim 1 wherein said diffuse light transmission is greater than 92% at 500 nm.

13. The light diffuser of Claim 1 wherein said microvoids have a major axis diameter to minor axis diameter ratio of less than 2.0.

14. The light diffuser of Claim 1 wherein said microvoids have a major axis diameter to minor axis diameter ratio of between 1.6 and 1.0.

15. The light diffuser of Claim 1 wherein said thermoplastic layer contains greater than 4 index of refraction changes greater than 0.20 parallel to the direction of light travel.

16. The light diffuser of Claim 1 wherein said microvoids have a average volume of between 8 and 42 cubic micrometers over an area of 1 cm^2.

17. The light diffuser of Claim 1 wherein said microvoids have a average volume of between 12 and 18 cubic micrometers over an area of 1 cm^2.

18. The light diffuser of Claim 1 wherein the said light diffuser has a thickness between 12.5 and 50 micrometers.

19. The light diffuser of Claim 1 wherein said thermoplastic layer comprises polyolefin polymer.

20. The light diffuser of Claim 1 wherein said thermoplastic layer comprises polyester polymer.

21. The light diffuser of Claim 7 wherein said cross linked polymer beads have a mean particle size less than 2.0 micrometers.

22. The light diffuser of Claim 7 wherein said cross linked polymer beads have a mean particle size between 0.30 and 1.7 micrometers.

23. The light diffuser of Claim 1 further comprising an integral smoothing layer on at least one surface thereof, the layer exhibiting an average thickness less than 12 microns.

24. The diffuser of Claim 23 wherein said smoothing layer has a average surface roughness of between 0.02 and 0.18 micrometers.

25. The surface diffuser of Claim 1 wherein said smoothing layer contains a cross linked urethane polymer coating applied to the surface of the smoothing layer.

26. The surface diffuser of Claim 1 wherein the polymeric film incorporating microvoids comprises a plurality of layers having void geometry in which the x/y/z size or frequency varies by at least 28% between at least two layers.

27. The surface diffuser of Claim 26 wherein the polymeric film contains at least two voided layers that are separated by a non-voided layer.

28. The light diffuser of Claim 26 wherein the x/y/z size or frequency of the voids vary by between 28% and 300% between at least two layers.

29. The light diffuser of Claim 1 wherein said microvoids have a substantially circular cross-section in a plane perpendicular to the direction of light travel.

30. A back lighted imaging media comprising a light source and a light diffuser comprising a polymeric film incorporating microvoids wherein the film has a diffuse light transmission efficiency of at least 65% at 500nm and wherein the microvoids are of a size, shape and frequency sufficient to provide an average weight-balanced color temperature variation of not more than 40 degrees.

31. An liquid crystal device comprising a light source and a light diffuser comprising a polymeric film incorporating microvoids wherein the film has a diffuse light transmission efficiency of at least 65% at 500nm and wherein the microvoids are of a size, shape and frequency sufficient to provide an average weight-balanced color temperature variation of not more than 40 degrees K.

32. A liquid crystal device component comprising a light diffuser comprising a polymeric film incorporating microvoids wherein the film has a diffuse light transmission efficiency of at least 65% at 500nm and wherein the microvoids are of a size, shape and frequency sufficient to provide an average weight-balanced color temperature variation of not more than 40 degrees K.